**Amendments to the Claims:**

The following list of claims will replace all prior versions of the claims in the application:

1. (*Currently amended*) A system for real-time monitoring of changes in a sub-seafloor hydrocarbon reservoir over an interval of time during which there may be hydrocarbon extraction, comprising:

a controlled source electromagnetic transmitter comprising at least one transmitting antenna for transmitting electromagnetic energy on a plurality occasions over the interval;

a plurality of seafloor antennae distributed on the seafloor over an area corresponding to the reservoir, wherein each seafloor antenna comprises a receiver electrode array, each providing a signal responsive to energy from the transmitter on each of the occasions;

at least one data logging ~~process~~ processor for receiving on each occasion the signal from each of the antennae, the signal characterizing, in part, impedance of the reservoir, and for causing storage, for each occasion, of at least one parameter related to the signals received from the antennae;

a clocking device for associating a time with respect to the at least one parameter stored; and

an optional comparison process for identifying changes over time in the at least one parameter.

2. (*Original*) The system of claim 1, wherein the at least one transmitting antenna transmits electromagnetic energy at a frequency selected to produce a ten-fold or greater change in field strength as the reservoir is depleted.

3. (*Original*) The system of claim 2, wherein the frequency falls within a range of 0.1 Hz to 1.0 Hz.

4. (*Original*) The system of claim 2, wherein a range between the at least one transmitting antenna and one of the plurality of seafloor antennae is selected in combination with the frequency.

5. (*Original*) The system of claim 1, wherein each seafloor antenna comprises a plurality of electrodes disposed at pre-determined distances along a conductive cable.

6. (*Original*) The system of claim 1, wherein the plurality of seafloor antennae is installed in a fixed array on the seafloor.

7. (*Original*) The system of claim 1, wherein the plurality of seafloor antennae comprises a plurality of receivers removably deployed on the seafloor.

8. (*Original*) The system of claim 1, wherein the electromagnetic transmitter is fixed in place relative to the reservoir and the plurality of seafloor antennae.

9. (*Original*) The system of claim 8, wherein the electromagnetic transmitter is mounted on a platform constructed for hydrocarbon extraction from the reservoir.

10. (*Original*) The system of claim 9, wherein the platform is disposed above water.

11. (*Original*) The system of claim 9, wherein the platform is disposed on the seafloor, and wherein the electromagnetic transmitter is enclosed in a water- and pressure-resistant housing.

12. (*Original*) The system of claim 1, wherein the electromagnetic transmitter is towed by a ship over an area corresponding to the reservoir.

13. (*Original*) The system of claim 12, wherein the electromagnetic transmitter is towed by a neutrally buoyant cable comprising a conductor encased in a thermoplastic elastomer having a density less than 1000 $kg/m^3$.

14. (*Original*) The system of claim 1, wherein the electromagnetic energy includes a vertical field and each of the plurality of seafloor antennae provides a signal responsive to the vertical field.

15. (*Original*) The system of claim 1, wherein the electromagnetic energy includes a radial field and the receiver electrode array includes receiver electrode pairs disposed in a radial orientation across the reservoir that measure the radial field and provide a signal responsive to the radial field.

16. (*Original*) The system of claim 1, wherein the electromagnetic energy includes an azimuthal field and the receiver electrode array includes a pair of receiver electrodes corresponding to a line or arc between a pair of radii that detects the azimuthal field and provides a signal responsive to the azimuthal field.

17. (*Original*) The system of claim 1, further comprising:

magnetic field induction sensors for performing a magnetotelluric survey for generating a signal for correction of data obtained from the plurality of seafloor antenna.

18. (*Original*) A method for real-time monitoring of changes in a sub-seafloor hydrocarbon reservoir over an interval of time during extraction comprising:

(a) distributing a plurality of receiver antennae on the seafloor over an area corresponding to the reservoir, wherein each antenna comprises a receiver electrode array;

(b) deploying at least one electromagnetic field transmitter at or near the seafloor above the reservoir;

(c) obtaining, on a plurality of occasions during the interval, from each of the receiver antennae, a signal responsive to energy from the transmitter, each signal characterizing in part impedance of the reservoir;

(d) storing, for each occasion, at least one parameter related to signals received from the antennae; and

(e) identifying changes over time in the at least one parameter.

19. (*Original*) The method system of claim 18, wherein the transmitter emits energy at a frequency selected to produce a ten-fold or greater change in field strength of the obtained signal as the reservoir is depleted.

20. (*Original*) The method of claim 19, wherein the frequency falls within a range of 0.1 Hz to 1.0 Hz.

21. (*Original*) The method of claim 19, wherein a range between the transmitter and one of the plurality of receiver antennae is selected in combination with the frequency.

22. (*Original*) The method of claim 18, wherein each receiver antenna comprises a plurality of electrodes disposed at pre-determined distances along a conductive cable.

23. (*Original*) The method of claim 18, wherein the plurality of receiver antennae is installed in a fixed array on the seafloor.

24. (*Original*) The method of claim 18, wherein the plurality of receiver antennae comprises a plurality of receivers removably deployed on the seafloor.

25. (*Original*) The method of claim 18, wherein the electromagnetic field transmitter is fixed in place relative to the reservoir and the plurality of receiver antennae.

26. (*Original*) The method of claim 25, further comprising mounting the electromagnetic field transmitter on a platform constructed for hydrocarbon extraction from the reservoir.

27. (*Original*) The method of claim 18, further comprising deploying and towing the electromagnetic field transmitter over an area corresponding to the reservoir using a ship.

28. (*Original*) The method of claim 27, wherein the electromagnetic field transmitter is towed by a neutrally buoyant cable comprising a conductor encased in a thermoplastic elastomer having a density less than 1000 $kg/m^3$.

29. (*Currently amended*) The method of claim 18, further comprising:

performing a magnetotelluric survey; and

applying measurements from the magnetotelluric survey for correction of the at least one stored parameter.